CLAIMS:

1. An optical scanning device for scanning an optical record carrier using a radiation beam, said device comprising an optical system for focusing the radiation beam to a spot on an information layer in the record carrier, and a detection system (16) comprising an information signal detector (18) arranged to receive radiation from a main part of a radiation beam after reflection of the main part at the record carrier and to detect an information signal therein,

wherein the optical system comprises a redirecting structure (26; 126) arranged to redirect a part (17) of a radiation beam, when travelling towards the record carrier, differently to a main part (15) of the radiation beam, such that the redirected beam part follows a path which is different to that of a path followed by the main beam part, and

wherein the detection system comprises a position sensitive detector (26) for detecting a position of the redirected beam part.

2. An optical scanning device according to any preceding claim, wherein said redirecting structure (26; 126) comprises a refractive redirecting portion.

3. An optical scanning device according to claim 2, wherein the redirecting structure (26; 126) comprises a substantially flat surface portion.

4. An optical scanning device according to any preceding claim, wherein the redirecting structure (26; 126) is formed as part of an objective lens system in the optical system.

5. An optical scanning device according to any preceding claim, wherein the redirecting structure (26; 126) is formed on a surface of a lens element.

6. An optical scanning device according to claim 5, wherein the redirecting structure (26; 126) is arranged as a non-rotationally symmetric variation in a surface of the lens element.

7. An optical scanning device according to claim 5 or 6, wherein the redirecting structure (26; 126) comprises a surface portion which is inclined with respect to the surrounding lens surface.

8. An optical scanning device according to any preceding claim, wherein the redirecting structure (26; 126) is arranged to cover less than 5% of the cross sectional area of a radiation beam.

9. An optical scanning device according to any preceding claim, wherein the redirecting structure (26; 126) comprises a first portion (A; C) for redirecting the beam part when travelling towards the record carrier and a second portion (B; D) for redirecting the beam part after reflection from the record carrier.

10. An optical scanning device according to any preceding claim, wherein the optical system comprises a reflective portion (D) arranged to reflect a part of a radiation beam such that the reflected beam part follows a path which is different to a path which is followed by a main beam part of the radiation beam, and wherein the detection system comprises a position sensitive detector (26) for detecting a position of the reflected part.

11. An optical scanning device according to claim 9 and 10, wherein said second portion and said reflective portion are formed as a single structural element (D).

12. An optical scanning device according to claim 11, wherein inclinations α and β of said first and second portions respectively are as follows:

$$\beta = \alpha \frac{(n+1)}{(n-1)}$$

where n is a refractive index of the redirecting structure.

13. An optical scanning device according to any of claims 10 to 12, wherein the detection system comprises a single position sensitive detector (26) for detecting both the redirected beam part and the reflected beam part.

14. An optical scanning device according to any of claims 10 to 13, comprising a first radiation source generating a first radiation beam of a first wavelength and a second radiation source generating a second radiation beam of a different second wavelength, and wherein the reflective portion (D) is selectively reflective in relation to one of the first and second wavelengths.

15. An optical scanning device according to claim 14, wherein the radiation source generating the second beam is arranged to be selectively modified in intensity to vary the relative intensities of the redirected beam part and the reflected beam part.